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ABSTRACT

A study was conducted at Northern Virginia Community College (NVCC) to examine student enrollment and retention patterns; quarter-to-quarter retention; retention rates by full-time/part-time status, sex, race, and age; cumulative graduation rates; and the relationship between first-quarter academic performance and subsequent quarter enrollment. The study tracked first-time students entering NVCC in the fall quarters of 1979 through 1983, and followed them up to the winter quarter of 1985. Study findings included the following: (1) between 28% and 35% of all first-time students enrolled at the college for only one quarter; (2) between 59% and 72% of all first-time students enrolled at NVCC for a total of three quarters or less; (3) attrition rates between first and second quarter of enrollment increased from 40% among the fall 1982 group to 44% among the fall 1983 group; (4) cumulatively, after six quarters of enrollment, only about 2% of the first-time students graduated; (5) fall-to-winter retention rates ranged from 56% to 60%, with fall 1983 having the lowest rates; (6) generally, retention rates among males were about 2% higher than among females; (7) students under 21 years of age had the highest fall-to-winter retention rates of all age groups; and (8) of the students who achieved a first quarter grade point average of 2.00 or above, at least 62% returned in subsequent quarters. (EJV)

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STUDENT RETENTION: A LONGITUDINAL STUDY TRACKING FIRST-TIME STUDENTS AT AN URBAN MULTI-CAMPUS COMMUNITY COLLEGE

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Student Retention: A Longitudinal Study Tracking First-Time Students at an Urban Multi-Campus Community College

INTRODUCTION

The literature reveals that retention of full-time students at residential four-year college and universities has been studied extensively in research by Pascarella, et.al. (1983), Sanders, et.al. (1985), Terenzini, et.al. (1977 and others), etc. Little research, however, deals with retention of students at large multicampus community colleges.

This longitudinal study is designed to examine student enrollment and retention patterns at Northern Virginia Community College, a large, urban and multicampus community college in the Washington, D.C., metropolitan area with quarterly enrollment of more than 35,000 students for more than 15,000 FTES at its five campuses.

The study tracks first-time students entering the College in the Fall quarters 1979-1983 and follows them up to the Winter quarter of 1985 to examine and compare their retention patterns that might have established over the years. The study also focuses on the retention of students from their first to their second quarter of enrollment; i.e., Fall-to-Winter quarter enrollment. This is based on the postulate that students' enrollment at community colleges is indeed intermittent therefore their quarter-to-quarter retention has very important implications on the college planning decision-making process. The study also examines if there is a difference in the quarter-to-quarter

student retention rate by full-time/part-time status, by sex, by race, and by age group. It also closely looks at the cumulative graduation rates over the years and the relationship between first-quarter academic performance and subsequent quarter enrollment.

METHODOLOGY

The present study is a longitudinal study tracking the enrollment of

1. 9,700 Fall 1979 first-time students for 17 consecutive quarters (Fall 1979-Winter 1985 excluding summer quarters).
2. 9,819 Fall 1980 first-time students for 14 consecutive quarters (Fall 1980-Winter 1985 excluding summer quarters).
3. 9,597 Fall 1981 first-time students for 11 consecutive quarters (Fall 1981-Winter 1985 excluding summer quarters).
4. 8,646 first-time students for 8 consecutive quarters (Fall 1982-Winter 1985 excluding summer quarters).
5. 8,915 first-time students for 5 consecutive quarters (Fall 1983-Winter 1985 excluding summer quarters).

Individual students are tracked at the time of their re-enrollment in spite of their stopping out periods.

An enrollment pattern was developed using the Statistical Analysis System (SAS). An enrollment is designated a "1" whereas a non-enrollment is designated a "0." For example:

Three-Quarter Enrollment	Pattern
Fall - NONE - NONE	1 0 0
Fall - Spring - NONE	1 1 0
Fall - Spring - Winter	1 1 1

This pattern reveals a huge number of possible enrollment patterns; for example, 1,426 combinations were found associated with the Fall 1979 first-time population. SAS procedures are used to analyze the data and to group enrollment pattern combinations into a more manageable number of combinations.

RESULTS

Data on overall enrollment patterns, retention rates and graduation rates will be presented, followed by Fall to Winter retention rates broken down by full-time/part-time status, sex, race, age group, and academic performance.

Overall Enrollment Patterns

Between 28 and 35 percent of all Fall first-timers enrolled at the College only one quarter. (Table 1). This, in a way, confirms a common belief that community colleges serve as "revolving-door" institutions where students drop in and stop out for a course or two on a as-needed basis.

Cumulatively, between 59 and 72 percent of all first-time students enrolled at the College for a total of three quarters or less. (Table 1). Seventy-two percent of Fall 1983 first-timers enrolled at NVCC for three quarters or less; this is an increase of 14 percent over the Fall 1982 rate whereas the Fall 1982 rate revealed only two percent increase from the Fall 1981 rate. Retention rates dropped significantly after three quarters across the years.

Table 1

Enrollment Patterns by Total Quarters of Attendance
Fall 1979 - Fall 1983

# of Quarter	% Fa 79	% Fa 80	% Fa 81	% Fa 82	% Fa 83
1	28.69	27.94	29.28	28.80	34.70
2	15.91	16.10	16.11	15.55	18.47
3	15.31	15.13	16.01	17.40	18.46
4	7.53	7.69	7.83	8.68	8.12
5	5.27	5.74	5.18	6.15	6.46
6	7.68	7.02	7.73	8.46	
7	3.76	4.39	4.50	3.99	
8	3.13	3.32	3.24	3.51	
9	3.50	4.21	4.35		
10	2.31	2.37	2.01		
11	1.73	1.58	1.79		
12	1.81	1.92			
13	1.11	1.11			
14	0.74	0.74			
15	0.78				
16	0.35				
17	0.39				

Enrollment in Consecutive Quarters

It is also important to examine student enrollment patterns in consecutive quarters to compare student retention/attrition rates over the years. As depicted in Table 2, attrition rates increased from 40 percent among the Fall 82 group to 44 percent among the Fall 83 group in students' second quarter of enrollment. At the third quarter of enrollment, the stopout rate increased from 57 percent among the Fall 82 group to 62 percent among the Fall 83 group. (Table 2).

It is interesting to note that 38 Fall 79 first-timers (.39%) continued to enroll at the College consecutively for 17 quarters.

Table 2

Enrollment Patterns in Consecutive Quarters
- Fall 1979 - Fall 1983 -

# of Quarter	% Fa 79	% Fa 80	% Fa 81	% Fa 82	% Fa 83
1	100.00	100.00	100.00	100.00	100.00
2	57.81	58.50	58.18	59.83	55.96
3	40.51	41.57	41.49	42.74	38.29
4	24.79	26.38	25.17	25.62	21.85
5	19.51	20.48	19.99	19.49	16.76
6	16.36	16.86	16.91	16.26	
7	9.70	10.39	10.38	10.00	
8	6.34	8.23	7.96	7.88	
9	3.73	6.77	6.68		
10	2.72	3.75	3.49		
11	2.16	2.62	2.48		
12	1.18	2.24			
13	.90	1.23			
14	.74	.86			
15	.45				
16	.39				
17	.39				

Graduation Rates

Graduation rates of the first-timers were examined after the first three quarters of attendance and at three-quarter intervals thereafter. Generally, graduation rates were low for all the first-timer groups (Table 3). This might refute a common assumption that community college students enroll in a traditional two-year program and graduate at completion of the two-year enrollment period. Cumulatively, after six quarters of enrollment, excluding summer quarters, only about two percent of first-timers graduated. The percentage increased to about six percent cumulatively after 12 quarters of attendance. (Table 3).

Table 3

Cumulative Graduation Rates of First-Timers
Fall 1979 - Fall 1983

# of Quarters	% Fa 79	% Fa 80	% Fa 81	% Fa 82	% Fa 83
After 3 Qtrs.	.18	.10	.13	.27	.20
After 6 Qtrs.	1.93	1.51	1.69	1.34	
After 9 Qtrs.	4.33	3.95	4.25		
After 12 Qtrs.	6.39	5.92			
After 15 Qtrs.	7.38				

Fall-to-Winter Retention

Retaining Fall first-time students in the subsequent quarter (Fall-to-Winter retention) is very important. As has been found by various studies of student retention (Theophilides, et.al., 1984, etc.), first quarter/year experience correlates highly with student retention. Thus, if a student is retained after the first quarter of enrollment, the student must have experienced a satisfactory quarter at the College.

As presented in Tables 2 and 4, the Fall-to-Winter retention rates ranged from 56 to 60 percent, with Fall 83 having the lowest Fall-to-Winter retention rate.

Table 4

Fall-to-Winter Retention Rates
Fall 1979 - Fall 1983

Quarter	#	Quarter	#	WI/FA %
Fall 79	9,700	Winter 80	5,608	57.81
Fall 80	9,819	Winter 81	5,744	58.50
Fall 81	9,597	Winter 82	5,584	58.18
Fall 82	8,646	Winter 83	5,173	59.83
Fall 83	8,915	Winter 84	4,989	55.96

By Full-Time/Part-Time Status:

Generally, full-time students had a better Fall-to-Winter retention rate than their part-time counterparts and this was true over the five groups under scrutiny. While full-timers showed a rate between 72 and 79 percent, part-timers are retained at a rate between 49 and 51 percent, from the first to the second quarter of enrollment. (Table 5).

Table 5

Fall-to-Winter Retention Rates
by Full-Time/Part-Time Status*
Fall 1979 - Fall 1983

Status	% Fall 79/ Winter 80	% Fall 80/ Winter 81	% Fall 81/ Winter 82	% Fall 82/ Winter 83	% Fall 83/ Winter 84
FT	77.79	75.38	76.52	79.42	72.39
PT	49.17	50.57	49.63	50.11	49.40

*at first quarter of enrollment.

By Sex:

Although the College student population has experienced an increase in female student enrollments, Fall-to-Winter retention rates show that a higher percentage of males were retained over the years, except the Fall 81/Winter 82 period. Generally, male retention rates were about two percent higher than females. (Table 6).

Table 6

Fall-to-Winter Retention Rates
by Sex
Fall 1979 - Fall 1983

Sex	% Fall 79/ Winter 80	% Fall 80/ Winter 81	% Fall 81/ Winter 82	% Fall 82/ Winter 83	% Fall 83/ Winter 84
M	59.07	59.73	57.99	60.70	56.55
F	56.98	57.50	58.36	59.09	55.48

By Race:

As presented in Table 7, all races experienced a decrease in Fall-to-Winter retention rate between Fall 82/Winter 83 and Fall 83/Winter 84. Asian retention rates have been the highest among all the groups over the years. Blacks had the lowest Fall-to-Winter retention rates and these rates have gradually decreased over the years. Fall-to-Winter retention rate of the Hispanic group experienced the sharpest decrease (9%) between Fall 80/Winter 81 and Fall 79/Winter 80. It should be noted that these rates are a function of students taking courses full-time or part-time and therefore should not be attributed to racial differences. For example, in Fall 83, 42 percent Asian first-timers were full-time students while only 19 percent of Blacks were full-timers.

Table 7

Fall-to-Winter Retention Rates
by Race
Fall 1979 - Fall 1983

Race	% Fall 79/ Winter 80	% Fall 80/ Winter 81	% Fall 81/ Winter 82	% Fall 82/ Winter 83	% Fall 83/ Winter 84
W	57.43	58.54	58.38	59.93	56.05
B	56.10	52.88	50.59	50.15	47.93
A	69.20	70.74	70.52	73.30	69.91
H	68.35	58.67	61.95	61.88	55.66
O	66.95	63.37	52.11	67.14	61.54

By Age Group:

As would be expected, the under 21 year-old age group had the highest Fall-to-Winter retention rates of all age groups over the years. These rates ranged from 67 to about 70 percent with Fall 83/Winter 84 experiencing the lowest rate. (Table 8). Students in this age group are more of the traditional college-age population, the majority of whom generally enrolled at community-colleges to prepare for transfer to a four-year college/university. In Fall 83, about 38 percent first-time students in this age group were full-timers making this group the highest full-time enrollees among all age groups.

The second group with the next highest Fall-to-Winter retention rates was the 31-45 year-olds. Generally, students of this age group enrolled at community colleges to explore a new career, to improve job skills, for training to seek new employment, or for self-enrichment. As found in a retention study at NVCC linking student retention/attrition with educational

objectives, many in the 31-45 age group came to the College with a degree from a previous college.

Table 8

Fall-to-Winter Retention Rates
by Age Groups*
Fall 1979 - Fall 1983

Age Groups	% Fall 79/ Winter 80	% Fall 80/ Winter 81	% Fall 81/ Winter 82	% Fall 82/ Winter 83	% Fall 83/ Winter 84
Under 21	68.57	68.22	68.44	69.82	67.06
22-30	48.72	48.06	48.62	48.59	44.60
31-45	53.01	55.77	51.94	53.45	49.60
46-55	48.15	49.31	49.31	48.60	46.86
55+	49.64	40.14	50.00	52.78	46.21

*at first quarter of enrollment.

Academic Performance

One would predict that as students enrolled at a community college, regardless of their educational objectives, they would likely stop out and eventually become attrition if they did not perform well in their first quarter. Getzlaf, et.al, (1984) found that students who actually dropped out had had lower academic ability than those who were retained.

As presented in Table 9, of the students who achieved a first quarter GPA of 2.00 or above, at least 62 percent returned in the subsequent quarter. However, only between 38 and 43 percent of those first-timers having a GPA of less than 2.00 returned to the College in the Winter quarter subsequent to their first Fall quarter.

Table 9

Fall-to-Winter Retention Rates
by First Quarter GPA
Fall 1979 - Fall 1983

GPA	% Fall 79/ Winter 80	% Fall 80/ Winter 81	% Fall 81/ Winter 82	% Fall 82/ Winter 83	% Fall 83/ Winter 84
>2.0	64.52	65.48	64.20	65.38	62.42
<2.0	38.71	38.95	40.91	43.00	38.31

CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

Data from this longitudinal study seem to confirm a common belief that student enrollment at community colleges is generally of an intermittent nature, and that community college education is a "life-long" process with students dropping in and stopping out on an as-needed basis. Student retention at community colleges really needs to be examined in conjunction with student educational objectives which are not available in the time frame of this study. The College only began to collect data on student educational objectives in the Winter quarter of 1985.

The fact that student enrollment is generally intermittent implies that new policies need to be made and implemented. Traditionally, programs are "packaged" for a two-year transfer and/or vocational curriculum. The intention is to treat all students as having the same educational objective of graduating within two years to eventually transfer or to get an associate degree in applied science (AAS) to join the work force. Therefore, the needs of those students with a "life-long" educational goal are not met. It is important that the curricula be revised

to be more sensitive to the needs of these students since a community college is a college for all.

The data depict a low graduation rate for all Fall first-timer groups. As said earlier, one would traditionally expect that students would graduate after two years of education in a curriculum. This is not the case with the majority of students. A low graduation rate is not necessarily bad in light of community college missions. For example, NVCC mission as a comprehensive community college is to "function within the total educational community, to ensure that all individuals in the Northern Virginia area are given an opportunity for the continuing development and extension of their skills and knowledge..." NVCC students enrolled in various curricula/programs including the transfer and vocational education programs. Many students did not graduate within two years of enrollment even if they were matriculated in a program. Students usually took longer than a two-year period to complete their program of education; many never graduated. This low graduation rate does not necessarily imply failure on the part of the College in light of NVCC mission.

It is difficult to establish a definition and measures for retention/attrition at community colleges. Community college student populations are diverse with their changing mix; i.e., full-time and part-time, with different educational objectives, etc. This study examines student retention with two different measures. One long-term with retention being measured over the

total number of quarters attended, the other short term measuring Fall-to-Winter retention.

Short-term retention rates; i.e., Fall-to-Winter retention, have been between about 56 and 60 percent. The College has been able to retain approximately more than half of its Fall quarter first-timers over the five years covered in this study. Other things being equal, this short-term retention rate is perhaps up to the expectation one would have for community colleges. If short-term retention is what one needs to focus on, close examination should be put on the full-time student group. Indeed, full-time students had better short-term retention than their part-time counterparts. Their Fall-to-Winter retention rates ranged from 72 to 79 percent while those of the part-time group ranged between 49 to 51 percent.

However, one should bear in mind that the College should strive to increase its student retention rates. One possible way to do this is to improve student counseling/advising. It has been found that first-quarter experience (faculty-student and/or staff student contacts) correlates highly with student retention in subsequent quarters (Theophidides, et.al., 1984). In addition to career planning conferences with counselors, students need to be assigned faculty advisors/mentors who would discuss with them about employment outlook and advise them on potential careers.

It has been found in research on student retention that academic performance is a predictor of retention/attrition. Getzlaf, et.al., (1984), for example, found that those students

who dropped out had lower academic ability than those who persisted. Data from this study show that of the students who achieved a first quarter GPA of 2.00 or above, at least 62 percent returned in the subsequent quarter. Students having a GPA of less than 2.00 were retained in the second quarter at a much lower rate; i.e. between 38 and 43 percent. These preliminary findings seem to confirm one's belief that academic performance is a predictor of student retention/attrition.

Regardless of objectives, if a student performed well academically in the first quarter of enrollment, he/she would be more likely to retain at the College than one who failed. Thus, it is important that an "alert" system be installed to give early warning to students who did not perform well in a course. This warning can be made formally by the Dean of Student Development, by the Division Chair, by the Program Head, or informally by the faculty advisor or by the course instructor. The important thing is that the problem should be detected early so that remedies can be prescribed. Sometimes students do not perform well merely because of personal problems that need to be discussed with a counselor/advisor. For example, a student might not do well because he/she could not afford to buy the textbook while waiting for financial aid to come through. Sometimes students do not do well because of lack of college preparation. What needs to be done in a case like this is for the College to implement a placement test to help increase "success rate" of students in courses that require more extensive reading/writing skills.

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